

■ FHM Analysis Progress Report, Pacific Northwest Region ■

A Process to Validate and Refine NIDRM Models

High-Resolution Risk Mapping and a Multiple-Year Host Impact Assessment



Critical Statewide Input Maps

30-meter forest vegetation map
Developed from 1996 LANDSAT imagery,
Gradient Nearest Neighbor, and FIA plots

30-meter productivity map
Based on potential vegetation and soils

Predictive Criteria

Susceptibility Index inputs

- Suitable host
- Site carrying capacity
- Stand density
- Elevation/latitude

Beetle Pressure Index inputs

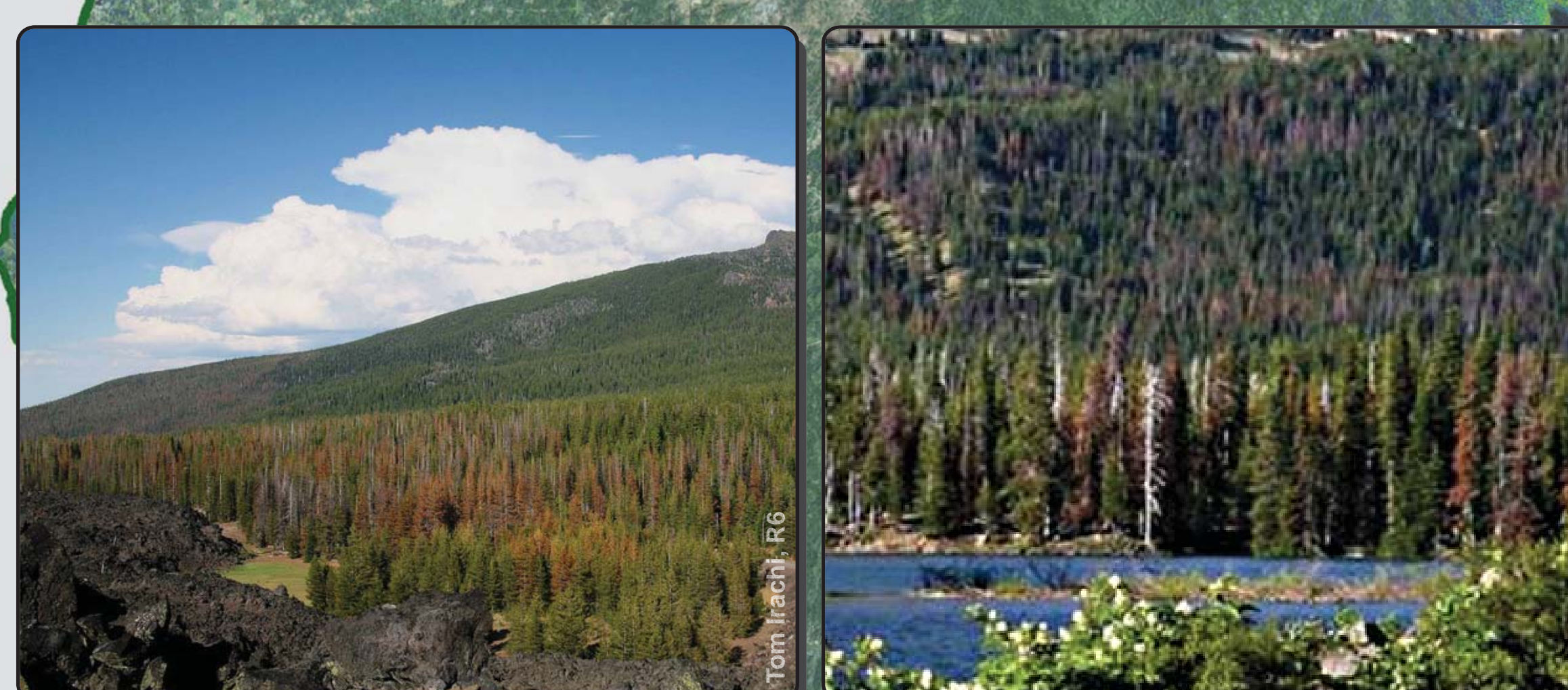
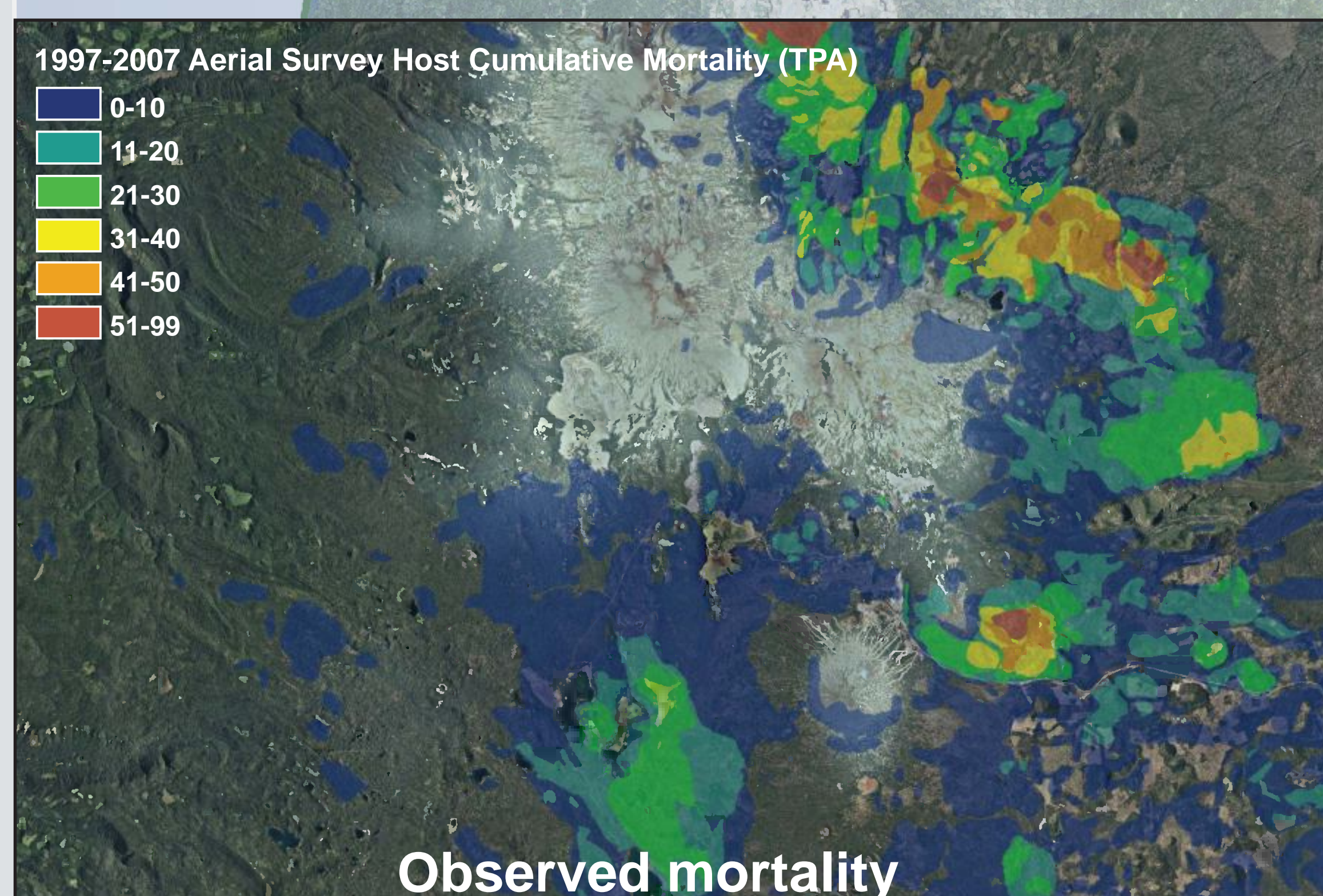
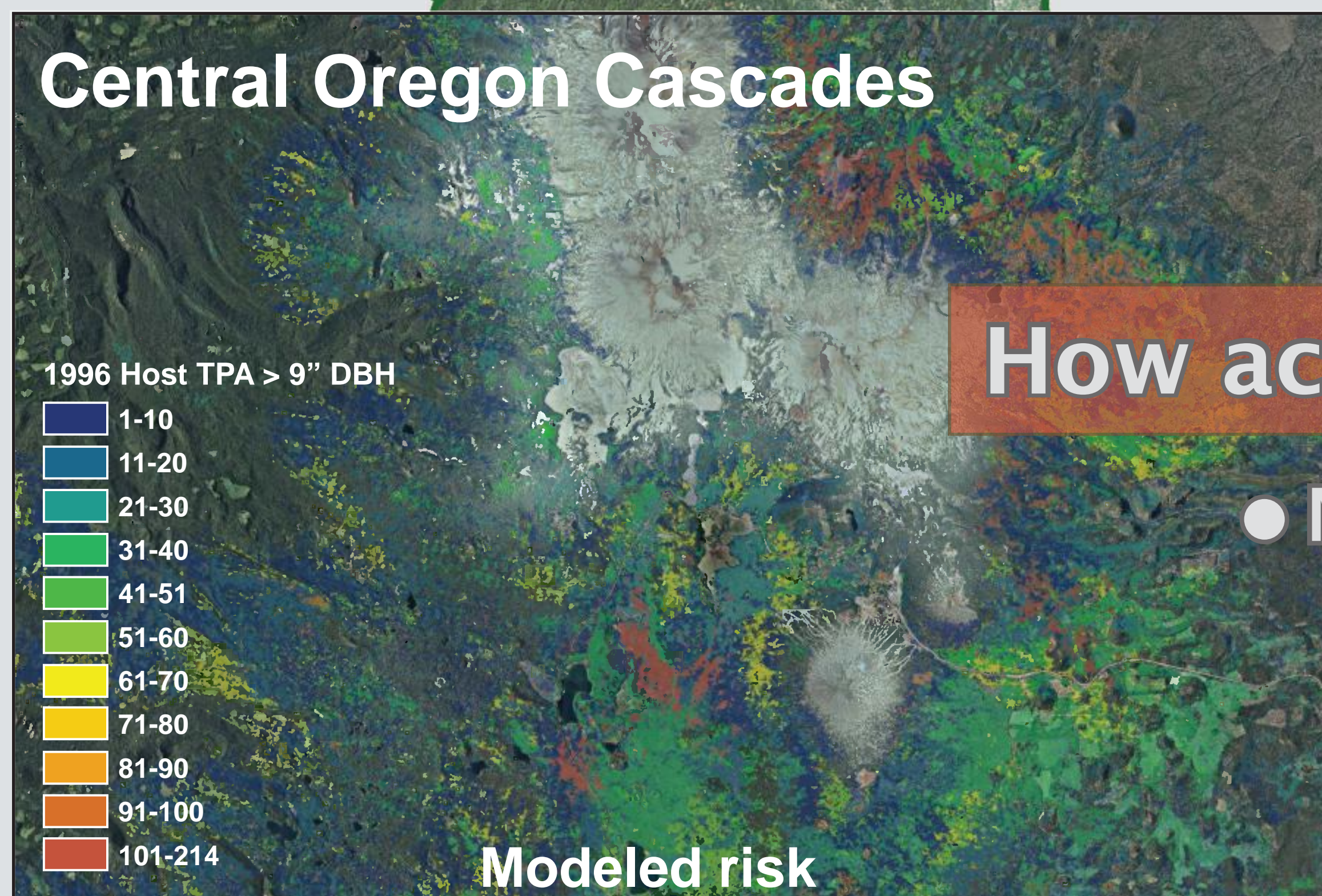
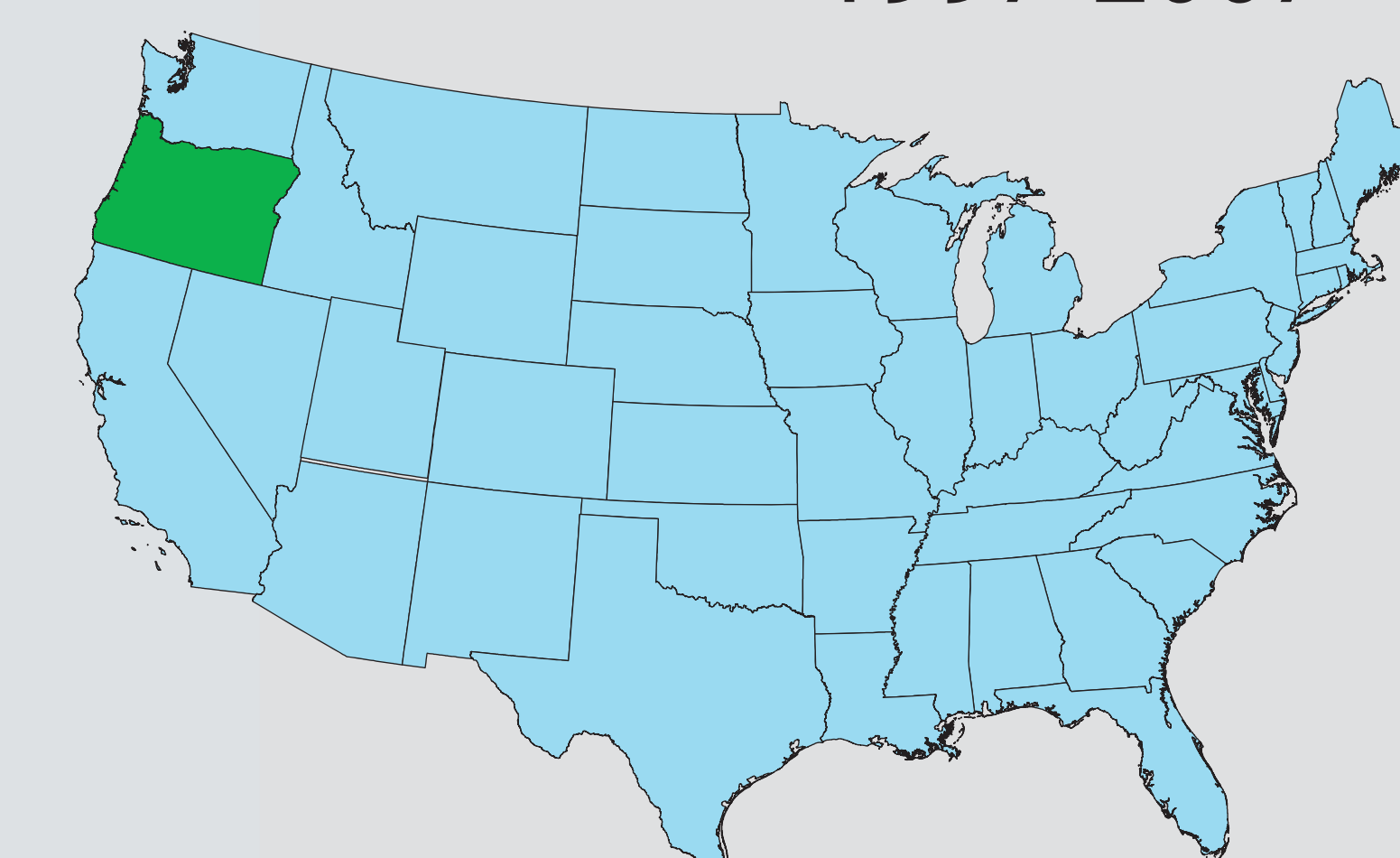
- Acres of high-susceptibility stands nearby
- Active outbreak nearby

Predictive Risk Map Output

15-year mountain pine beetle risk
1997-2011
Mapped at 30-meter spatial resolution

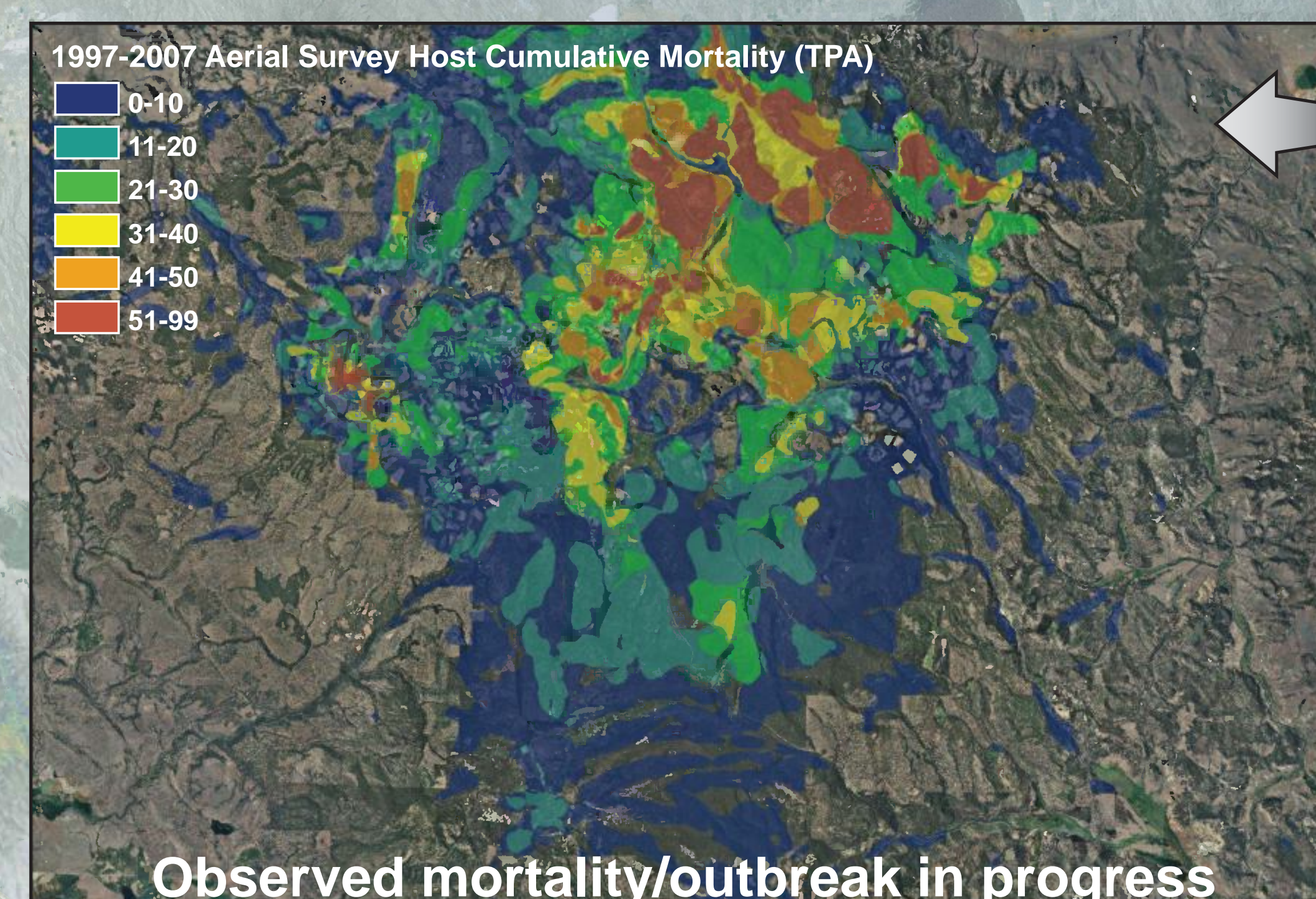
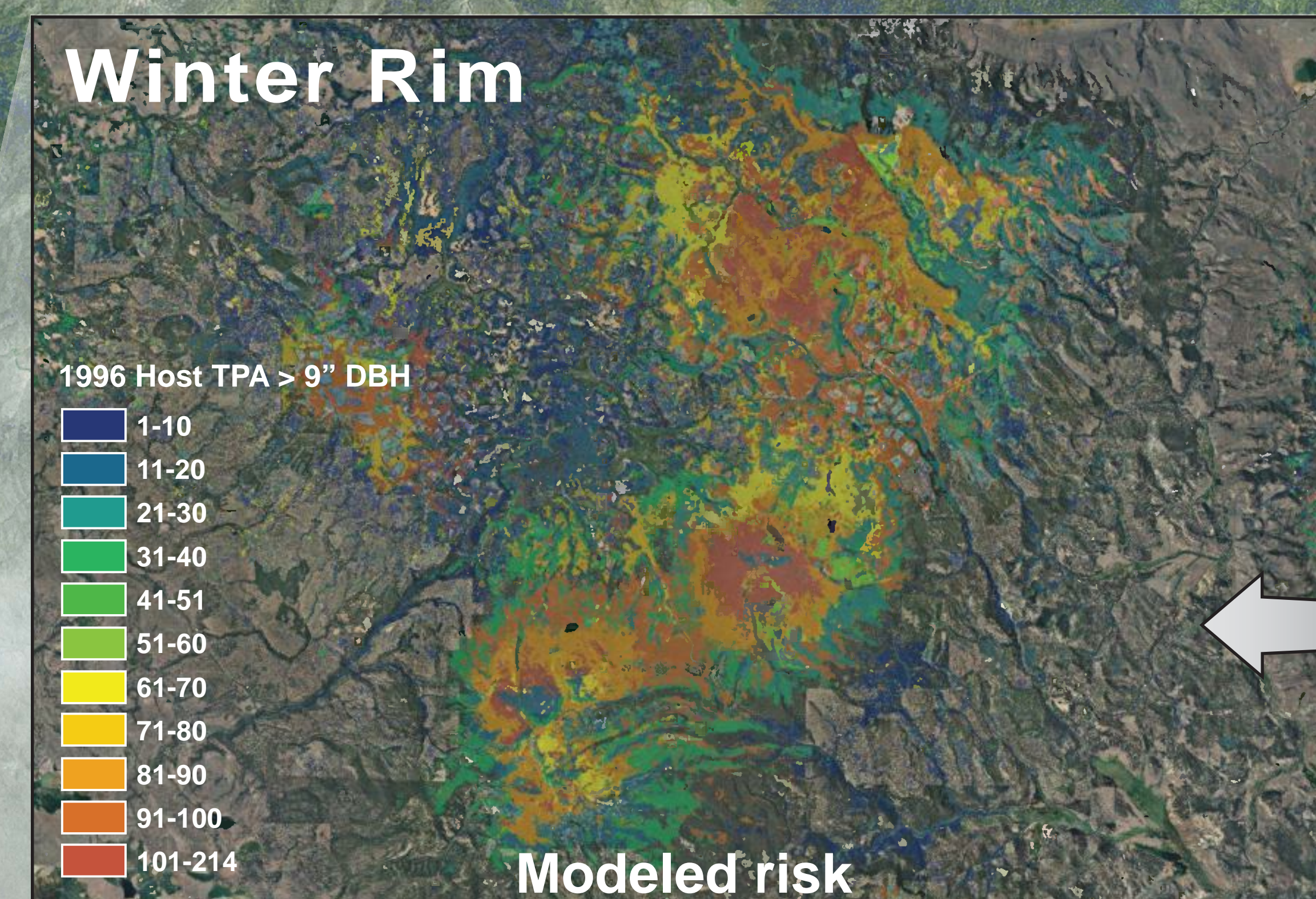
Observed Cumulative Mortality

Aerial Detection Survey (ADS) Map
11-year ADS cumulative mortality
1997-2007



How accurate are NIDRM model predictions?

- Mountain pine beetle in lodgepole pine •



Refinements will be used to generate 2011 National Insect and Disease Risk Maps